

Translation

PATENT COOPERATION TREATY

PCT

PCT/JP2003/016841



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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference NSI001PCT	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/JP2003/016841	International filing date (<i>day/month/year</i>) 25 December 2003 (25.12.2003)	Priority date (<i>day/month/year</i>) 26 December 2002 (26.12.2002)
International Patent Classification (IPC) or national classification and IPC C07C 239/20, C08F 38/00, C07H 1/08, C12P 19/04, G01N 33/53		
Applicant SHIONOGI CO., LTD.		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of <u>4</u> sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising: <ul style="list-style-type: none"> a. <input type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of _____ sheets, as follows: <ul style="list-style-type: none"> <input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4. This report contains indications relating to the following items: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input checked="" type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application

Date of submission of the demand 12 May 2004 (12.05.2004)	Date of completion of this report 14 February 2005 (14.02.2005)
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2003/016841

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on translations from the original language into the following language _____, which is language of a translation furnished for the purpose of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☒ The international application as originally filed/furnished
- ☐ the description:
- pages _____, as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ the claims:
- pages _____, as originally filed/furnished
- pages* _____, as amended (together with any statement) under Article 19
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ the drawings:
- pages _____, as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP03/16841

Box No. IV Lack of unity of invention

1. ☐ In response to the invitation to restrict or pay additional fees the applicant has:
- ☐ restricted the claims.
 - ☐ paid additional fees.
 - ☐ paid additional fees under protest.
 - ☐ neither restricted nor paid additional fees.
2. ☒ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is
- ☐ complied with.
 - ☒ not complied with for the following reasons:

Divisions of inventions

Claims 1 and 2; claim 3; claims 4 and 5; claim 6; claim 7; and claims 8-16 and 18

Reason

The inventions of the groups of claims shown in the above "Divisions of inventions" relate to substances per se that can interact specifically with sugar chains. Many "substances that can interact specifically with sugar chains," which is the common feature of the subject matters, are well known to a person skilled in the art, including lectin and antibodies recognizing sugar chains. Immobilizing sugar chains in a support carrier by means of such a substance is a publicly-known technical matter, as described in the documents: JP, 60-163667, A, & JP, 62-228273, A, & EP, 399464, A2.

Accordingly, it is not found that the respective inventions of the groups of claims shown in the above "Divisions of inventions" have a technical relationship with one another involving the same or corresponding special technical features.

There are no documents found to deny the novelty of the compounds represented by the general formula (I) of claim 8, and so the subject matters of claims 8-16 and 18 are grouped as one group of inventions.

Accordingly, it is not considered that the respective inventions of the groups of claims shown in the above "Divisions of inventions" are a single group of inventions so linked with one another as to form a single general inventive concept.

4. Consequently, this report has been established in respect of the following parts of the international application:

- ☐ all parts.
- ☒ the parts relating to claims Nos. 1-16, 18.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP03/16841

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	8-16, 18	YES
	Claims	1-7	NO
Inventive step (IS)	Claims	8-16, 18	YES
	Claims	1-7	NO
Industrial applicability (IA)	Claims	1-16, 18	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

Document 1: JP, 58-53757, A (Denki Kagaku Kogyo K.K.), 30 March, 1983 (30.03.83) (Family: none)
Document 2: JP, 60-163667, A (Asahi Chemical Industry Co., Ltd.), 26 August, 1985 (26.08.85) (Family: none)
Document 3: JP, 62-228273, A (Fujitsu Ltd.), 7 October, 1987 (07.10.87) (Family: none)
Document 4: EP, 399464, A2 (Eiji Ishikawa), 28 November, 1990 (28.11.90), & JP, 3-73852, A
Document 5: JP, 2001-89494, A (Wako Pure Chemical Industries, Ltd.), 3 April, 2001 (03.04.01) (Family: none)

The subject matters of claims 1-7 do not appear to be novel or to involve an inventive step in view of documents 1-5 cited in the ISR.

Documents 1-5 concretely describe substances that can interact specifically with sugar chains.

The subject matters of claims 8-16 and 18 appear to be novel and to involve an inventive step in view of documents 1-5 cited in the ISR.

The specific substances of claims 8-16 and 18 that can interact specifically with sugar chains are neither described in documents 1-5, nor could have been easily conceived of from the descriptions of documents 1-5.